

**STL North Canton** 4101 Shuffel Drive NW North Canton, OH 44720

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#### ANALYTICAL REPORT

KREJCI DUMP SITE

Lot #: A7C310175

Stephen Keiffer

EQ Industrial Services 2701 N. I-94 Service Drive Ypsilanti, MI 1378738

SEVERN TRENT LABORATORIES, INC.

Amy L. McCormick Project Manager

April 16, 2007

#### CASE NARRATIVE

A7C310175

The following report contains the analytical results for one solid sample submitted to STL North Canton by EQ Industrial Services from the Krejci Dump Site. The sample was received March 31, 2007, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The sample presented in this report was analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 32.

#### SUPPLEMENTAL QC INFORMATION

#### SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 14.6°C. without any coolant.

#### **CASE NARRATIVE (continued)**

#### POLYCHLORINATED BIPHENYLS-8082

The analytical results met the requirements of the laboratory's QA/QC program.

#### **METALS**

The matrix spike/matrix spike duplicate(s) for batch(es) 7092025 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

#### **GENERAL CHEMISTRY**

The analytical results met the requirements of the laboratory's QA/QC program.

#### **OUALITY CONTROL ELEMENTS OF SW-846 METHODS**

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

#### **OC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

#### LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

#### METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

• Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride,	Phthalate Esters	Copper, Iron, Zinc,	Copper, Iron, Zinc, Lead
Acetone, 2-Butanone		Lead, Calcium,	
		Magnesium, Potassium,	
		Sodium, Barium,	
		Chromium, Manganese	

# QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

#### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

#### SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repreped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repreped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



#### STL North Canton Certifications and Approvals:

California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Utah (#QUAN9), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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### **EXECUTIVE SUMMARY - Detection Highlights**

#### A7C310175

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
HHR 3 COMPOSITE 03/31/07 001				
Arsenic	8.8	1.5	mg/kg	SW846 6010B
Lead	40.8	0.44	mg/kg	SW846 6010B
Barium	58.2	29.3	mg/kg	SW846 6010B
Chromium	14.6	1.5	mg/kg	SW846 6010B
Percent Solids	68.3	10.0	%	MCAWW 160.3 MOD

#### **ANALYTICAL METHODS SUMMARY**

#### A7C310175

PARAMETER	ANALYTI METHOD	_	
Inductively Coupled Plasma (ICP) Metals	SW846 6	6010в	
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846	7470A	
Mercury in Solid Waste (Manual Cold-Vapor)	SW846	7471A	
PCBs by SW-846 8082	SW846 8	8082	
Total Residue as Percent Solids	MCAWW 1	160.3	MOD
Trace Inductively Coupled Plasma (ICP) Metals	SW846 6	6010B	

#### References:

MCAWW	"Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
SW846	"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". Third Edition, November 1986 and its updates.

#### **SAMPLE SUMMARY**

#### A7C310175

WO # SAMPLE# CLIENT SAMPLE ID

JR5W9 001 HHR 3 COMPOSITE

03/31/07

#### NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

#### Client Sample ID: HHR 3 COMPOSITE

#### GC Semivolatiles

Lot-Sample #: A7C310175-001	Work Order #: JR5W91AA	Matrix: SO
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Prep Batch #...: 7093249

Dilution Factor: 1

**% Moisture....:** 32 **Method.....:** SW846 8082

		REPORTIN	JG
PARAMETER	RESULT	LIMIT	UNITS
Aroclor 1016	ND	48	ug/kg
Aroclor 1221	ND	48	ug/kg
Aroclor 1232	ND	48	ug/kg
Aroclor 1242	ND	48	ug/kg
Aroclor 1248	ND	48	ug/kg
Aroclor 1254	ND	48	ug/kg
Aroclor 1260	ND	48	ug/kg
	PERCENT	RECOVERY	<u> </u>
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	85	(10 - 12	27)
Decachlorobiphenyl	99	(40 - 13	38)

#### NOTE(S):

Results and reporting limits have been adjusted for dry weight.

#### Client Sample ID: HHR 3 COMPOSITE

#### TOTAL Metals

Lot-Sample #...: A7C310175-001 Matrix.....: SO

Date Sampled...: 03/31/07 Date Received..: 03/31/07

**% Moisture....:** 32

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #	: 7092025					
Mercury	ND	0.15 Dilution Factor	mg/kg or: 1	SW846 7471A	04/02-04/04/07	JR5W91AL
Arsenic	8.8	1.5 Dilution Facto		SW846 6010B	04/02-04/03/07	JR5W91AH
Barium	58.2	29.3 Dilution Factor	mg/kg	SW846 6010B	04/02-04/03/07	JR5W91AD
Cadmium	ND	0.73 Dilution Factor	mg/kg or: 1	SW846 6010B	04/02-04/03/07	JR5W91AE
Lead	40.8	0.44 Dilution Facto	mg/kg	SW846 6010B	04/02-04/03/07	JR5W91AJ
Chromium	14.6	1.5 Dilution Facto		SW846 6010B	04/02-04/03/07	JR5W91AF
Selenium	ND	0.73 Dilution Facto		SW846 6010B	04/02-04/03/07	JR5W91AK
Silver	ND	1.5 Dilution Facto	mg/kg or: 1	SW846 6010B	04/02-04/03/07	JR5W91AG
NOTE(S):						

Results and reporting limits have been adjusted for dry weight.

#### Client Sample ID: HHR 3 COMPOSITE

#### TCLP Metals

**Lot-Sample #...:** A7C310175-001 **Matrix.....:** SO

Date Sampled...: 03/31/07

Leach Date....: 04/05/07

Leach Batch #..: P709505

PARAMETER	RESULT	REPORTING	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch # Arsenic	.: 7096023 ND	0.50 Dilution Factor	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AM
Barium	ND	10.0 Dilution Fact	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AN
Cadmium	ND	0.10 Dilution Fact	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AP
Chromium	ND	0.50 Dilution Fact	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AQ
Lead	ND	0.50 Dilution Fact	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AR
Selenium	ND	0.25 Dilution Factor	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AT
Silver	ND	0.50 Dilution Fact	mg/L or: 1	SW846 6010B	04/06/07	JR5W91AU
Mercury	ND	0.0020 Dilution Fact	mg/L or: 1	SW846 7470A	04/06/07	JR5W91AV
NOTE(S):						

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

#### Client Sample ID: HHR 3 COMPOSITE

#### General Chemistry

Lot-Sample #...: A7C310175-001 Work Order #...: JR5W9 Matrix.....: SO

**% Moisture....:** 32

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Solids
 68.3
 10.0
 %
 MCAWW 160.3 MOD
 03/31-04/02/07 7090106

Dilution Factor: 1



# **QUALITY CONTROL SECTION**

#### GC Semivolatiles

Client Lot #...: A7C310175 Work Order #...: JR84Q1AA Matrix.....: SOLID

MB Lot-Sample #: A7D030000-249

Prep Date....: 04/03/07

**Analysis Date..:** 04/05/07 **Prep Batch #...:** 7093249

Dilution Factor: 1

		REPORTING	3	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Tetrachloro-m-xylene	53	(10 - 127	7)	
Decachlorobiphenyl	75	(40 - 138	3)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### TOTAL Metals

Client Lot #...: A7C310175 Matrix.....: SOLID

		REPORTING	3		PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHOD	ANALYSIS DATE	ORDER #
	U. 75500000	005 5 5		700005		
MB Lot-Sample		_			04/00 04/04/05	C1 G1
Mercury	ND	0.10	mg/kg	SW846 7471A	04/02-04/04/07	JR6DF.ICI
		Dilution Fact	or: 1			
Arsenic	ND	1.0	mg/kg	SW846 6010B	04/02-04/03/07	JR6DF1CW
		Dilution Fact			. , , , , , ,	
Barium	ND	20.0	mg/kg	SW846 6010B	04/02-04/03/07	JR6DF1CR
		Dilution Fact	or: 1			
Cadmium	ND		mg/kg	SW846 6010B	04/02-04/03/07	JR6DF1CT
		Dilution Fact	or: 1			
Lead	ND	0.30	mq/kq	SW846 6010B	04/02-04/03/07	TD6DE1CV
Leau	ND	Dilution Fact	3. 3	SW040 0010B	04/02-04/03/07	UKUDFICA
		Dilucion Face	01. 1			
Chromium	ND	1.0	ma/ka	SW846 6010B	04/02-04/03/07	JR6DF1CU
		Dilution Fact	3. 3		. , , , , , ,	
Selenium	ND	0.50	mg/kg	SW846 6010B	04/02-04/03/07	JR6DF1C0
		Dilution Fact	or: 1			
Silver	ND		mg/kg	SW846 6010B	04/02-04/03/07	JR6DF1CV
		Dilution Fact	or: 1			
370mm ( a ) .						
NOTE(S):						

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### TCLP Metals

PARAMETER	RESULT	REPORTING	G <u>UNITS</u>	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #			
_	MB Lot-Sample #: A7D050000-276								
Arsenic	ND	0.50 Dilution Fact	mg/L cor: 1	SW846 6010B	04/06/07	JTETD1AD			
Barium	ND	10.0 Dilution Fact	<b>J</b> .	SW846 6010B	04/06/07	JTETD1AE			
Cadmium	ND	0.10 Dilution Fact		SW846 6010B	04/06/07	JTETD1AF			
Chromium	ND	0.50 Dilution Fact	<b>J</b> .	SW846 6010B	04/06/07	JTETD1AG			
Lead	ND	0.50 Dilution Fact	_	SW846 6010B	04/06/07	JTETD1AH			
Selenium	ND	0.25 Dilution Fact		SW846 6010B	04/06/07	JTETD1AJ			
Silver	ND	0.50 Dilution Fact	<b>J</b> .	SW846 6010B	04/06/07	JTETD1AK			
Mercury	ND	0.0020 Dilution Fact	mg/L cor: 1	SW846 7470A	04/06/07	JTETD1AC			
NOTE(S):									

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### TCLP Metals

Client Lot #...: A7C310175 Matrix.....: SOLID

		REPORTING	1			PREPARATION-	WORK
PARAMETER	RESULT	LIMIT	UNITS	METHOD		ANALYSIS DATE	ORDER #
MB Lot-Sample ‡		_					
Arsenic	ND	0.50	mg/L	SW846 601	10B	04/06/07	JTFXG1AA
		Dilution Fact	or: 1				
Barium	ND	10.0	mg/L	SW846 601	10B	04/06/07	JTFXG1AC
20.1 1 0	1.5	Dilution Fact	_	2,7010 001		01,00,0.	0111101110
		pridorom rado	01 1				
Cadmium	ND	0.10	mg/L	SW846 601	10B	04/06/07	JTFXG1AD
		Dilution Fact	or: 1				
Chromium	ND	0.50	mg/L	SW846 601	10B	04/06/07	JTFXG1AE
		Dilution Fact	or: 1				
T 1	110	0 50	/ -	G110.46 601	1.05	04/06/07	TDD1161 3 D
Lead	ND	0.50	mg/L	SW846 601	10B	04/06/07	JTFXG1AF
		Dilution Fact	or: 1				
Selenium	ND	0.25	mq/L	SW846 601	10B	04/06/07	JTFXG1AG
		Dilution Fact	<b>3</b> ·				
Silver	ND	0.50	mg/L	SW846 601	10B	04/06/07	JTFXG1AH
		Dilution Fact	or: 1				
Mercury	ND	0.0020	mg/L	SW846 747	70A	04/06/07	JTFXG1AJ
		Dilution Fact	or: 1				
NOTE(S):							

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### General Chemistry

Client Lot #...: A7C310175 Matrix.....: SOLID

 REPORTING
 PREPARATION <th colspan="4

Dilution Factor: 1

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: A7C310175 Work Order #...: JR84Q1AC Matrix.....: SOLID

LCS Lot-Sample#: A7D030000-249

Prep Batch #...: 7093249

Dilution Factor: 1

PARAMETER Aroclor 1016 Aroclor 1260	PERCENT RECOVERY 57 64	RECOVERY LIMITS (41 - 130) (42 - 130)	METHOD SW846 8082 SW846 8082
SURROGATE Tetrachloro-m-xylene Decachlorobiphenyl		PERCENT RECOVERY 52 68	RECOVERY <u>LIMITS</u> (10 - 127) (40 - 138)

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### TOTAL Metals

**Client Lot #...:** A7C310175 Matrix....: SOLID PERCENT RECOVERY PREPARATION-LIMITS METHOD ANALYSIS DATE WORK ORDER # PARAMETER RECOVERY LCS Lot-Sample#: A7D020000-025 Prep Batch #...: 7092025 Mercury 102 (73 - 123) SW846 7471A 04/02-04/04/07 JR6DF1A2 Dilution Factor: 1 Barium 91 (80 - 120) SW846 6010B 04/02-04/03/07 JR6DF1DD Dilution Factor: 1 87 (80 - 120) SW846 6010B 04/02-04/03/07 JR6DF1DH Arsenic Dilution Factor: 1 (80 - 120) SW846 6010B Cadmium 89 04/02-04/03/07 JR6DF1DE Dilution Factor: 1 Lead 87 (80 - 120) SW846 6010B 04/02-04/03/07 JR6DF1DJ Dilution Factor: 1 Chromium 92 (80 - 120) SW846 6010B 04/02-04/03/07 JR6DF1DF Dilution Factor: 1 (80 - 120) SW846 6010B Selenium 87 04/02-04/03/07 JR6DF1DK Dilution Factor: 1 Silver 100 (80 - 120) SW846 6010B 04/02-04/03/07 JR6DF1DG Dilution Factor: 1

Calculations are performed before rounding to avoid round-off errors in calculated results.

NOTE(S):

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### TCLP Metals

Client Lot #...: A7C310175 Matrix.....: SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: Arsenic	A7D060000- 98	_	sw846 6010B	04/06/07	JTFXG1AK
Barium	104	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AL
Cadmium	101	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AM
Chromium	104	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AN
Lead	99	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AP
Selenium	101	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AQ
Silver	110	(50 - 150) Dilution Factor	SW846 6010B	04/06/07	JTFXG1AR
Mercury	112	(50 - 150) Dilution Factor	SW846 7470A	04/06/07	JTFXG1AT
NOTE ( C ) ·					

 $\label{lem:calculations} \textbf{Calculations} \ \text{are performed before rounding to avoid round-off errors in calculated results}.$ 

#### GC Semivolatiles

Client Lot #...: A7C310175 Work Order #...: JR3M01FJ-MS Matrix.....: SOLID

**MS Lot-Sample #:** A7C300175-002 JR3M01FK-MSD

Date Sampled...: 03/29/07 10:25 Date Received..: 03/30/07
Prep Date....: 04/03/07 Analysis Date..: 04/05/07

Prep Batch #...: 7093249

Dilution Factor: 1 % Moisture....: 9.6

PARAMETER Aroclor 1016	PERCENT RECOVERY 99	RECOVERY LIMITS (10 - 200)	RPD	RPD LIMITS	METHOI	
Aroclor 1260	86 103	(10 - 200) (10 - 200) (10 - 200)	14	(0-30)	SW846 SW846	8082
ALOCIOI 1200	88	(10 - 200) $(10 - 200)$	16	(0-30)	SW846	
		PERCENT		RECOVERY		
SURROGATE	_	RECOVERY		LIMITS	_	
Tetrachloro-m-xylene		98		(10 - 127	)	
		83		(10 - 127	)	
Decachlorobiphenyl		105		(40 - 138	)	
		98		(40 - 138	)	

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

#### TOTAL Metals

Client Lot #		0175 /07 10:25 <b>Date Received:</b>		Matrix: SOLID
PARAMETER	PERCENT RECOVERY	RECOVERY RPD LIMITS RPD LIMITS M	METHOD	PREPARATION- WORK ANALYSIS DATE ORDER #
MS Lot-Sampl	e #: A7C30	0175-002 Prep Batch #:	7092025	
Mercury	120 117		SW846 7471A SW846 7471A	<b>% Moisture:</b> 9.6 04/02-04/04/07 JR3M01EG 04/02-04/04/07 JR3M01EH
Arsenic	81 83		SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01D6 04/02-04/03/07 JR3M01D7
Barium	88 88	- /	SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01DR 04/02-04/03/07 JR3M01DT
Cadmium	81 83	- /	SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01DV 04/02-04/03/07 JR3M01DW
Lead	65 N 70 N		SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01D9 04/02-04/03/07 JR3M01EA
Chromium	81 90	- /	SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01D0 04/02-04/03/07 JR3M01D1
Selenium	81 82	,	SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01ED 04/02-04/03/07 JR3M01EE
Silver	94 96	· ·	SW846 6010B SW846 6010B	04/02-04/03/07 JR3M01D3 04/02-04/03/07 JR3M01D4

#### NOTE(S):

 $\label{lem:calculations} \textbf{Calculations are performed before rounding to avoid round-off errors in calculated results}.$ 

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

#### TOTAL Metals

Client Lot #		0175 /07 14:00 Date Received:	: 03/31/07	Matrix: SOLID
PARAMETER	PERCENT RECOVERY	RECOVERY RPD LIMITS M	METHOD	PREPARATION- WORK ANALYSIS DATE ORDER #
MS Lot-Sampl	e #: A7C31	0148-008 Prep Batch #:	: 7092025	
Mercury	108 110		SW846 7471A SW846 7471A	<b>% Moisture:</b> 20 04/02-04/04/07 JR5QJ1AC 04/02-04/04/07 JR5QJ1AD
Arsenic	83 81		SW846 6010B SW846 6010B	04/02-04/04/07 JR5QJ1AX 04/02-04/03/07 JR5QJ1A0
Barium	93 84		SW846 6010B SW846 6010B	04/02-04/03/07 JR5QJ1CF 04/02-04/03/07 JR5QJ1CG
Cadmium	86 86	( )	SW846 6010B SW846 6010B	04/02-04/04/07 JR5QJ1CM 04/02-04/03/07 JR5QJ1CN
Lead	91 82	- /	SW846 6010B SW846 6010B	04/02-04/04/07 JR5QJ1A2 04/02-04/03/07 JR5QJ1A3
Chromium	113 109		SW846 6010B SW846 6010B	04/02-04/03/07 JR5QJ1CQ 04/02-04/03/07 JR5QJ1CR
Selenium	81 78		SW846 6010B SW846 6010B	04/02-04/04/07 JR5QJ1A5 04/02-04/03/07 JR5QJ1A6
Silver	34 N 92 *	( )	SW846 6010B SW846 6010B	04/02-04/03/07 JR5QJ1C5 04/02-04/03/07 JR5QJ1C6

#### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

 $<sup>^{\</sup>star}$   $\,$  Relative percent difference (RPD) is outside stated control limits.

#### TCLP Metals

Client Lot #...: A7C310175 Matrix.....: SOLID

Date Sampled...: 03/22/07 Date Received..: 03/29/07

PARAMETER	PERCENT RECOVERY	RECOVERY RPD LIMITS RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
_		0315-001 Prep Batch #			
		Leach Batch #.			
Arsenic	104	(50 - 150)	SW846 6010B	04/06/07	JR14Q1AR
	102	(50 - 150) 1.1 (0-20)	SW846 6010B	04/06/07	JR14Q1AT
		Dilution Factor: 5			
Barium	104	(50 - 150)	SW846 6010B	04/06/07	JR14Q1AU
	104	(50 - 150) 0.05 (0-20)	SW846 6010B	04/06/07	JR14Q1AV
		Dilution Factor: 5			
Cadmium	107	(50 - 150)	SW846 6010B	04/06/07	JR14Q1AW
	106	(50 - 150) 0.65 (0-20)	SW846 6010B	04/06/07	JR14Q1AX
		Dilution Factor: 5			
Chromium	106	(50 - 150)	SW846 6010B	04/06/07	JR14Q1A0
	105	(50 - 150) 0.80 (0-20)	SW846 6010B	04/06/07	JR14Q1A1
		Dilution Factor: 5			
Lead	103	(50 - 150)	SW846 6010B	04/06/07	JR14Q1A2
Lead	103	(50 - 150) 0.21 (0-20)		04/06/07	JR14Q1A3
		Dilution Factor: 5			~
Selenium	104	(50 - 150)	SW846 6010B	04/06/07	JR14Q1A4
Deterran	105	(50 - 150) 0.41 (0-20)		04/06/07	JR14Q1A5
		Dilution Factor: 5		, , , , ,	~
Silver	106	(50 - 150)	SW846 6010B	04/06/07	JR14Q1A6
DIIVEL	104	(50 - 150) 2.6 (0-20)		04/06/07	JR14Q1A7
		Dilution Factor: 5	2	01,00,01	0111121111
Mercury	110	(50 - 150)	SW846 7470A	04/06/07	JR14Q1A8
	118	(50 - 150) 6.5 (0-20)	SW846 7470A	04/06/07	JR14Q1A9
		Dilution Factor: 1			

#### NOTE(S):

 $\label{lem:calculations} \textbf{Calculations} \ \text{are performed before rounding to avoid round-off errors in calculated results}.$ 

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A7C310175 Work Order #...: JR3PQ-SMP Matrix.....: SOLID

JR3PQ-DUP

Date Sampled...: 03/29/07 15:45 Date Received..: 03/30/07

**% Moisture....:** 13

DUPLICATE RPD PREPARATION- PREP

PARAM RESULT RESULT UNITS RPD LIMIT METHOD ANALYSIS DATE BATCH #

Percent Solids SD Lot-Sample #: A7C300175-020

87.1 86.8 % 0.28 (0-20) MCAWW 160.3 MOD 03/31-04/02/07 7090106

Dilution Factor: 1

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A7C310175 Work Order #...: JR5QJ-SMP Matrix.....: SOLID

JR5QJ-DUP

Date Sampled...: 03/30/07 14:00 Date Received..: 03/31/07

**% Moisture....:** 20

DUPLICATE RPD PREPARATION- PREP

PARAM RESULT RESULT UNITS RPD LIMIT METHOD ANALYSIS DATE BATCH #

Percent Solids SD Lot-Sample #: A7C310148-008

80.2 79.4 % 0.96 (0-20) MCAWW 160.3 MOD 03/31-04/02/07 7090106

Dilution Factor: 1

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: A7C310175 Work Order #...: JR5W9-SMP Matrix.....: SO

JR5W9-DUP

Date Sampled...: 03/31/07 Date Received..: 03/31/07

**% Moisture....:** 32

DUPLICATE RPD PREPARATION- PREP

PARAM RESULT RESULT UNITS RPD LIMIT METHOD ANALYSIS DATE BATCH #

Percent Solids SD Lot-Sample #: A7C310175-001

68.3 63.0 % 8.0 (0-20) MCAWW 160.3 MOD 03/31-04/02/07 7090106

Dilution Factor: 1

# STL Mobile 900 Lakeside Drive

# Chain of Custody Record

SEVERN TRENT
(n)

Relinquished by:	Relinquished by T. Jugary Relinquished by:	Special Instructions/QC Requirements & Comments:	Rossible Hazara Laenistication Non-Hazara Flammable	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							HHR 3	Sample Identification	10#	KRE	Project Name: KIECT Dump SITE			MANT MI	Address 7701 N T-94 S/M /	Valir Company Name here	Mobile, AL 36693 phone 251-666-6633 fax 251-666-6696
Company:	Company:	ints:	Skin Irritant	4=HNO3; 5=	-						3/2/07	Sample Date	ì			N N	TAT	Calendar		Tel/Fax: / DO _ /	Twin in a Man
	8		Poi	NaOH; 6= O							63	Sample !	1 day	2 days	1 week	2 w	[AT if different from Below	Calendar (C) or Work Days (W)	Analysis Turnaround Time	no // 0. /	<b>V</b>
גַּם	تو <b>در</b> تو	,	Poison B	ther								Sample Type M	ay	ays	ek	2 weeks	Below	Dave (W)	around Tin	Kenn	
Date/Time:	Date/Fime: 97.	- -	Unknown								5	# of . Matrix Cont.							ie .		
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Company:	Company:		Return To Client Disposal By Lab Archive For Monte								<b>X</b>	PCB	- A	~2x		) 1/3				Date: 3/30/0/	
Date/Time:	Date/Time: Date/Time:		Archive For Months									Sample Specific Notes:				SDG No.			Job No.		Severn Trent Laboratories, Inc.

and the passes from	/Narrative Lot Numbe	:A7C3101	75
STL Cooler Receipt Form			
North Canton Facility		Quote#:	
Client: STZ Mobile (E	Opened on 3 3 1 97	by: Jenny	(Signature)
Cooler Received on: 3310	Choung on The The Control of the Con		
Fedx Client Drop Off U			
Stetson US Cargo U	Otner:	k Other	
STL Cooler No#		tact? Yes No [	T NA T
1. Were custody seals on the outs	side of the cooler? Yes No I	Mact: 103 gg 210 L	
If YES Quantity		es 🗗 No 🗌 NA [	7
Were the custody seals signed	and datod:	es No NA	7
2 Shipper's packing slip attache	d to this form?	elinquished by client? Y	es Da No
3 Did custody papers accompan	y the samples? Yes No L	es No $\square$	
4 Did you sign the custody pape	ers in the appropriate place?	<del></del> _	·
5 De line motorial used Rubble	Wran K Foam   None L	ther:	
6 Cooler temperature upon rece	ipt 14, 6 °C (see back of form for multiple	coolers/temp)	<sub>2</sub> 0 Slurry 🔲
METHOD: Temp Vial Co	polant & Sample Against Bottles Against Bottles		20 Sturry [_]
COOLANT: Wet Ice   B	Slue Ice Dry Ice Water	None D	
7 Did all bottles arrive in good	condition (Unbroken)?	Yes No L	
8. Could all bottle labels and/or	tags be reconciled with the COC?	Yes Mo No	A 🗗
9. Were samples at the correct p	H upon receipt?		AL
10. Were correct bottles used for	the tests indicated?	Yes No No	A 1⊅*
11. Were air bubbles >6 mm in ai	ny VOA vials?		AL
12. Sufficient quantity received to	o perform indicated analyses?	Yes No L	r_ 1 <b>75</b> 46
12 Was a Trin Blank present in	the cooler? Yes   No  OF Were VUAs of		lo 💇
Contacted PM ALM Da	ate: 3   3 1   67 by: TB via Vo	ice Mail 🗹 Verbal 📋	Other
Concerning: temp			
			<u> Perkeliji din dige in din dasi 1</u>
1. CHAIN OF CUSTODY			
The following discrepancies	occurred:	. 0	A
Used appro	x 40,5 ming grama of	on lach	Co Mary
for compo	TB B 181 07.		
D •			
		one <u>ja nikon i jajonko i jajon</u>	
2. SAMPLE CONDITION	were received after the	ecommended holding tir	ne had expired.
Sample(s)	were received in a bro		
Sample(s)		KOII COIIMIIIOI	
3. SAMPLE PRESERVATION		reserved in sample recei	ving to meet
Sample(s)			
recommended pH level(s). A	litric Acid Lot #1101 <b>06</b> - Sulfuric Acid Lot # <b>092006</b> -H2SO Cl; Sodium Hydroxide and Zinc Acetate Lot # <b>050205</b> -CH3C	4; 50aum пуагомае 1:01	2000 1/4011;
	were received with bubble	> 6 mm in diameter (cc:	PM)
Sample(s)	Wolf foculted with product		
4. Other (see below or back)			
Client ID	рН	<u>Date</u>	<u>Initials</u>

## STL Cooler Receipt Form/Narrative North Canton Facility

Client ID		р <u>Н</u>	<u>Date</u>	Initials
Client ID				
				-
				<del> </del>
			Method	Coolant
<u>ler</u>	Temp		MEMON	Coulant
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repancies Cont.	•			
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				*
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# END OF REPORT